

**COMPETITIVE PROCUREMENT OF MUNITIONS
EFFECT ON SAFETY AND SUITABILITY FOR SERVICE
ASSESSMENTS**

Transcript of Presentation By

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ABSTRACT

With more and more purchases of replacement stocks of munitions being placed to tender on the open market, we can no longer be assured that munitions purchased as replacements will be manufactured by the same manufacturer whose product has been assessed as safe and suitable for service. This paper addresses the problems that such competitive procurement can generate, in particular the validity of read-across of S³ assessments of munitions made by one manufacturer to munitions of the same type manufactured by a second manufacturer. The steps taken to overcome these problems are also addressed.

**COMPETITIVE PROCUREMENT OF MUNITIONS
EFFECT ON SAFETY AND SUITABILITY FOR SERVICE ASSESSMENTS**

1. With more and more purchases of replacement stocks of munitions being placed to tender on the open market, we can no longer be assured that munitions purchased as replacements will be manufactured by the same manufacturer whose product has been assessed as safe and suitable for service. Just as two cooks who make a cake using the same recipe may end up with different results, so can two munitions manufacturers making an item to the same specification.
2. When the Australian Ordnance Council advises on the safety and suitability for service (53) of an explosive composition or munition, the advice relates to a defined design build standard from a particular manufacturer and manufacturing site and using a particular manufacturing process and raw materials. A change in any of these factors could invalidate previous advice.
3. This short paper addresses the problems that such competitive procurement can generate, in particular the validity of read-across of S assessments of munitions made by one manufacturer to munitions of the same type manufactured by a second manufacturer. The steps taken to overcome these problems are also addressed. The content of this paper forms

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the basis of an Australian Ordnance Council pillar proceeding currently being developed to address the effects of competitive tendering and changes in manufacture.

4. A change in manufacture is deemed to have occurred when there has been a change to one or more of the following, irrespective of whether the change affects the overall assembly of the munition, its components or sub-assemblies, whether brought in or manufactured by the prime contractor:

- a. the drawings or specifications of the munition, including its components or sub-assemblies;
- b. the manufacturing process;
- c. the source or type of raw materials;
- d. the source of components; or
- e. the manufacturer or manufacturing site.

5. While changes to drawings, specifications and manufacturing processes are normally recorded, assessed and approved by the relevant configuration manager, these need to be routinely assessed for their potential effect on extant 53 advice, prior to implementation. Similarly, where a change in manufacture is proposed, the project manager or procurement authority must advise the responsible authority, which in Australia is the AOC, so that the effect of the change can be determined.

6. In deciding whether its original advice needs to be amended for explosives and munitions subject to a change in manufacture, the following principles need to be applied:

- a. the new item will not necessarily be assumed to have the same characteristics as the original;
- b. it must remain safe and suitable for service, and
- c. it must continue to have a service life acceptable to the project manager or procurement authority.

7. 53 advice needs to proceed concurrently with the approval process to ensure that the costs of obtaining the necessary test data can be included in competing tenders. The requirement for available test data and supporting documentation to be submitted at the tender stage needs to be included in Requests for Tender as a matter of course. The cost of any additional trials will need to be included in the tender assessment. Depending on the manufacturer, the availability of test results and the accreditation of the test agencies involved, these costs could be significant.

8. The original criteria for assessing 53 will be applied, unless modified by the responsible

authority. Any design change proposals which make an explosive or munition unrepresentative of that previously tested will require re-assessment, although this may not always require further testing. In particular, munitions offered 'off-the-shelf' from overseas sources must be subjected to a comprehensive 53 assessment, although not necessarily by the country considering the purchase. In Australia, for instance, where explosives and munitions have already passed an accredited test program by an authority such as the Ordnance Board or DDESB, our assessment might concentrate on an examination of service history to determine remaining service life.

9. As an aside, I may take this opportunity to have a cheap shot at some of our 'friends'. Recently Australia undertook an 'off-the-shelf' buy of an item of explosive ordnance. We had the usual problems of getting details of testing on the item, or the service history. On opening a package, a significant quantity of dirt and sand was found. On testing of the items we found that the plastic cone had cracked, which to our mind could present a safety hazard. Further investigation revealed that the originating service did not use this particular item because of the same cracking problem. So, I guess the moral of the story is that, whenever 'off-the-shelf' buys are contemplated, we must be aware that some people might try to unload their rubbish at a price that our supply people might find too good to resist!

10. In framing its advice, particularly with respect to the need for further testing, the responsible authority needs to determine and assess:

- a. the affect on overall 53 of the proposed change in manufacture;
- b. the complexity of the munition, and the degree of difficulty in
- c. manufacturing it to specification;
- d. the completeness of the specification, including critical processes;
- e. the effect of a change to a new production process or manufacturing site (if applicable);
- f. the effect of a change in source of supply or type of components or raw materials (if applicable);
- g. the reliability of available test data and supporting documentation; and
- h. the extent of the trial program which might be required to demonstrate that the new item remains safe and suitable for service.

11. These factors can be assessed only after potential manufacturers have been identified. With the exception of the trials requirement, much of the necessary information can be derived from the relevant documentation and drawings, and from assessing and questioning the tenderers. In general this approach, combined with adequate quality control and acceptance testing, should minimise the need for extensive testing programs. The extent of

any requirement for trials, however, might impact significantly on the price offered by the supplier and will be an important consideration in framing the response to tender. The trials requirement could be affected by:

- a. the extent to which the new manufacturer uses the same sources of supply, tools, dies and processes as the original manufacturer;
- b. the consequences of any new materials, processes or revised tolerances being introduced, including the need for qualification of new energetic materials; and
- c. the extent and adequacy of the manufacturer's own tests and assessments
- d. of the new item or items, including whether the manufacturer maintains a quality management system accredited to the 150 9000 series, or equivalent.

12. In Australia, where a change in manufacture is involved, the Council would normally publish an assessment of the explosive or munition concerned in a Reporting Proceeding, based on the principles and procedures described in this paper. In essence, those of us responsible for 53 assessments need to be convinced that a prospective manufacturer, when tendering for production to a design already assessed as safe and suitable for service, can satisfactorily reproduce the original build standard and maintain it throughout production.

13. All of what I have said so far is fine when the munition being purchased is the same' as one already in service and all that has occurred is a 'change in manufacture'. However, in Australia we appear to be moving towards purchasing replenishment stocks of munitions based on a performance specification, rather than an item specification. For example, although we may have in service a 'Mark XYZ' rocket, when a replenishment buy is undertaken we may end up with completely different type, perhaps even one which was rejected , perhaps for cost rather than performance reasons, in the initial procurement process. Unfortunately, replenishment purchases do not have to follow the same rigorous process as initial procurement and are managed by supply personnel who are driven primarily by cost considerations and who may have little, if any, appreciation of the implications of introducing what is, in effect, the introduction of a new item into service. If we thought that the problems associated with a 'change in manufacture' were significant, they are minor in comparison to those that I predict will be caused by purchasing to performance specifications.

14. We are actively working towards overcoming this problem, but it is a large education task. Nonetheless, we intend to prevail. What I am sure of though, is that the workload on the Council for assessments of 53 will increase significantly, as will the battles to obtain either test data sufficient to enable assessment, or items to test ourselves to obtain the required data.